Weekly Report

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Research

- **VAST 2012 Papers** This week I read [1] and [2] that are related to machine learning and exploratory data analysis for warming-up. [1] presents an interactive approach for metric learning. In MDS, user can modify data similarities in 2-D projection result space and distance function will be renewed according to user's adjustments. Finally a proper distance function can be learned interactively.
  For [2], it proposes a framework for exploring interested subspaces in a high-dimensional dataset. This framework provides scatter plots, PCP and several other views to show subspaces containing patterns(mostly subspace clusters), and relations between subspace scatter plots. I think that this paper is a concise solution for such task.

- **VIS2013 Projects** For knowledge transfer project, this week I paid my attention on narrowing down my ideas to application scenarios. I also designed some basic components in this analysis framework. I will make a presentation on Monday to explain my plan.

Practice & Skills

I spend several hours on Scikit.learn, a Python ML library, to see if it meets my requirements on the projects, however current implementation candidate is still Java.

Miscellaneous

- **Courseware** I will finish Class 5 and 6 for cross-media data visualization before Wednesday.

Plan for Next Week

- Begin to implement some basic components;

- continue making courseware and going over convex analysis.

References

[1] "Dis-Function: Learning Distance Functions Interactively," in *Visual Analytics Science and Technology (VAST), 2012 IEEE Conference on*, 2012.

[2] "Subspace Search and Visualization to Make Sense of Alternative Clusterings in High-Dimensional Data," in *Visual Analytics Science and Technology (VAST), 2012 IEEE Conference on*, 2012.